DOCUMENT RESUME

ED 463 578 EA 031 577

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TITLE	Things That Matter Most in Improving Student Learning: Implications for State Policy and Educational Leadership. High Schools That Work.
INSTITUTION	Southern Regional Education Board, Atlanta, GA.
PUB DATE	2001-00-00
NOTE	12p.
AVAILABLE FROM	For full text: http://www.sreb.org/programs/hstw/publications/pubs/mattermost.asp.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Curriculum Development; *Educational Improvement; Educational Policy; Elementary Secondary Education
IDENTIFIERS	*Southern Regional Education Board

ABSTRACT

Through its High Schools That Work initiative, the Southern Regional Education Board (SREB) has worked with states and schools to improve students' academic and technical achievement. Through this initiative, the SREB has defined what really matters in helping students achieve. This report addresses eight "things that matter most" in raising student achievement and recommends state policies and leadership initiatives for putting these things into practice. These "things that matter most" include: (1) students taking "the right academic courses"; (2) schools offering quality career/technical courses; (3) more students meeting curriculum and performance standards; (4) teachers engaging students in completing challenging assignments; (5) everyone supporting high expectations; (6) students getting extra help in meeting higher standards; (7) schools offering a supportive guidance system; and (8) teachers working together. This report offers practical suggestions for state policymakers and educational leaders who are in a position to put the "things that matter most" into practice for improving student performance. (RT)

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HIGH SCHOOLS THAT WORK

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Things That Matter Most in Improving Student Learning

Implications for State Policy and Educational Leadership

By Gene Bottoms, senior vice president of the Southern Regional Education Board

For more than a decade, the Southern Regional Education Board through its *High Schools That Work* initiative has worked with states and schools to improve students' academic and technical achievement. This effort is based on a school-reform vision with a number of unique features. *High Schools That Work:*

- Is a results-based approach that advocates high performance by all students;
- Links demanding academic courses with quality career/technical courses;
- Shares proven practices among more than 850 high schools in 22 states;
- Builds on the good things schools are doing and helps them replace ineffective practices;
- Believes schools can create the conditions for improvement.

These features benefit students who plan to seek a four-year college degree, but they are crucial for students with other educational and career goals for after high school. These students frequently are relegated to a second-class education in high school.

High Schools That Work is committed to raising student achievement by helping schools implement 10 key practices. These practices can make significant changes in what is taught, how it is taught, what is expected of students, and how educators work with each other, with parents and with the community.

Through *High Schools That Work*, the SREB has defined what really matters in helping students achieve. Above all, the SREB has confirmed that successful schools require cooperation among school leaders, teachers, students, parents, the business community, district and state educational leaders, and political leaders.

This report addresses eight "things that matter most" in raising student achievement and recommends state policies and leadership initiatives for putting these things into practice.

Many of the conclusions are drawn from *High Schools That Work* data collected over the last decade. The *HSTW* Assessment measures students' reading, mathematics and science performance and is based on the National Assessment of Educational Progress. It is administered in even-numbered years to high school seniors who are completing a career/technical concentration at *HSTW* sites. These students typically plan to enter a community college, go directly to work after high school graduation, or enroll in a four-year college with an open admissions policy. The assessment also includes a transcript study and surveys of students and teachers. The SREB also has conducted more than 350 technical assistance visits to schools and has met with groups of students, teachers, school leaders and community representatives in 22 states.

Things That Matter Most in Raising Student Achievement

Many things matter in changing school and classroom practices to improve student learning. The most successful schools in the *HSTW* network have implemented most of the things that matter. States can take the lead in helping schools adopt a comprehensive approach that incorporates all of these elements. What has been learned provides a framework for high school improvement that can affect educational policy and leadership initiatives. However, education and government leaders must understand that these recommendations are not meant to be items from which to pick and choose. States need to find a way to bring all of these essential elements to every school.

1. It Matters That Students Take "the Right Academic Courses"

All high school students should be enrolled in academic courses taught to college preparatory standards. The SREB has found that career/technical students achieve at a higher level if they take college-preparatory or honors English, mathematics and science courses. Students who take general or basic courses have lower achievement. Teaching "the rest" what has been good for "the best" works.

The 45 *High Schools That Work* sites that improved the most on the 1996 *HSTW* Assessment of reading, mathematics and science found the answer: They eliminated low-level courses and increased the percentage of students taking higher-level mathematics and science courses. As a result, these schools nearly doubled the percentage of students meeting the *HSTW* performance goals.

Comparison of Percentage of Students at 45 Most-Improved Schools Taking "the Right Mathematics and Science Courses" in 1994 and 1996

Course	Percentage of Students Taking Course	
	1994	1996
College-Prep Algebra I	46	61
Algebra II	32	59
Geometry	44	70
College-Prep Biology	15	35
Chemistry	27	49
Applied Physics/Physics	18	29

Source: The 1996 *High Schools That Work* Assessment

HSTW sites made more progress in advancing the mathematics achievement of students than in advancing reading and science achievement. State policies for high school graduation may be one reason. In many states, policies not only mandate more mathematics credits but also prescribe what those credits should be. Most *HSTW* states require Algebra I, and about one-third require geometry. While most states require three science credits, no state has prescribed the level of science courses necessary to meet this requirement. Virtually all states require students to take four years of English, but high schools may offer three or four levels of English in each grade. Students who take lower-level courses do not read well enough for further study and future employment.

State Policy and Leadership Initiatives for Implementing Things That Matter: "The Right Academic Courses"

- **Be specific about the academic courses students must take for high school graduation.** Not only the *number* of credits but also the *types* of credits matter. States must specify which English, mathematics and science courses they want students to take.
- **Stop offering multiple levels of English, mathematics and science.** Teach all students the same essential content and hold them to the same high standards. Teachers may need training in new instructional methods, and students may need extra help to meet the standards.
- **Develop rigorous end-of-course exams.** These exams ask students to demonstrate that they have learned the key concepts in courses such as English, Algebra I, geometry, physical science, biology and chemistry.
- **Collect data showing the relationship between the courses students take and their achievement.** Ask schools to use the data to take action in improving student achievement.

2. It Matters That Schools Offer Quality Career/Technical Courses

The SREB recommends that career/technical students complete at least four credits in a career concentration. These students have higher achievement if they:

- Complete a concentration with an emphasis in communication, mathematics or science;
- Use reading, writing and mathematics skills frequently to complete assignments in career/technical courses.

Quality career/technical courses increase academic achievement and motivate students who need to see a connection between what they do in school and their goals for the future. Career/technical courses advance students' academic and technical achievement when they involve complex assignments that require academic skills. The best career/technical teachers give students difficult, open-ended projects that involve research, planning and the application of academic and technical knowledge.

About one-third of high school career/technical courses do little to improve academic achievement. In a survey of career/technical teachers, more than half reported a need for staff development to help them integrate higher-level language arts, mathematics and science concepts into their courses.

State Policy and Leadership Initiatives for Implementing Things That Matter: "Quality Career/Technical Courses"

- **Require career/technical teachers to participate in staff development to improve their academic skills.** States can support professional development by allocating funds for mathematics and science institutes and for workshops in reading

and writing. West Virginia arranged for university faculty to help vocational teachers improve their mathematics knowledge through semester-long courses in mathematics skills and new instructional techniques.

- **Expand the state accountability system to assess the impact of career/technical courses in raising academic achievement.**
- **Require career/technical students to take technical literacy exams.** Technical literacy exams measure students' ability to read and comprehend the language of a field of study, understand the major technical concepts of that field, and apply the appropriate mathematics concepts to typical problems encountered in the workplace. Four *HSTW* states — Mississippi, North Carolina, Ohio and Oklahoma — use technical literacy exams. Technical literacy has been part of the *HSTW* Assessment plan from the beginning, but it has not been developed or implemented because of lack of funds.
- **Expand students' access to quality career/technical courses.** Career/technical programs should be quality programs that focus on broad career/technical areas linked to postsecondary studies and the workplace. They should include high-level instruction that gets students to use academic knowledge and skills in completing work-related projects. Students should have access as needed to programs at community colleges and technical institutions and to programs through agreements with other high schools and area vocational/technical centers.

3. It Matters That More Students Meet Curriculum and Performance Standards

Career/technical students who complete the *HSTW*-recommended curriculum[1] and meet *HSTW* performance goals in reading, mathematics and science achieve at or above the level of academic students nationally. The importance of linking curriculum and performance standards is shown clearly in the *HSTW* Assessment. A special analysis of the 1996 data showed that a much higher percentage of students from high-performing *HSTW* sites completed the *HSTW*-recommended curriculum.

Percentage of Students Completing the *High Schools That Work*-Recommended Curriculum

	Mathematics Performance			Reading Performance			Science Performance		
Area	**Low**	**Middle**	**High**	**Low**	**Middle**	**High**	**Low**	**Middle**	**High**
Mathematics	55	59	69	52	60	71	57	60	65
English	24	30	43	21	30	47	23	31	40
Science	32	35	48	30	36	45	31	36	44

Note: The schools shown are organized by low, middle and high performance for the indicated curriculum area. The data for each group of schools show the percentage of students by level of performance who had completed the recommended curriculum in each area.

Source: *Practice Makes Perfect*, MPR Associates Inc., 1998

[1]The *High Schools That Work*-recommended curriculum includes four college preparatory-level English courses; at least three mathematics courses, including two in college preparatory-level courses; at least three science courses, including two in college preparatory-level courses; and four courses in a career/technical concentration or an academic concentration.

Despite efforts by many schools to raise achievement, very few career/technical students in the *HSTW* network complete the *HSTW*-recommended curriculum. From the data, the SREB has concluded that the high school "system" is more to blame than the students.

To encourage more students to meet curriculum and performance standards, the SREB offers the *HSTW* Award of Educational Achievement. The award is presented to students who complete four credits in a career/technical or an academic concentration, meet at least two *HSTW* academic curriculum requirements, and meet or exceed the *HSTW* performance goals in reading, mathematics and science. More than 8,000 students qualified for the award in 1998. The award shows employers and postsecondary institutions that these students have taken the "right" courses in high school and are prepared to continue learning at work and in further education.

State Policy and Leadership Initiatives for Implementing Things That Matter: "Getting More Students to Meet Curriculum and Performance Standards"

- **Require each high school to show annual improvement in the percentage of students 1) completing an upgraded academic core, 2) completing an academic or a career major, and 3) meeting academic performance standards that reflect the expectations of business and industry and higher education.** To get high schools to teach rigorous academic courses to all students, states need to set performance standards for reading, mathematics and science. The standards should be high enough so that high school graduates will be able to enter community and technical colleges without having to take remedial courses and will be able to pass employers' general qualifying exams.
- **Recognize students who complete a solid academic core, complete a career/technical major and meet academic performance standards.** State recognition would be strengthened by getting colleges and universities to exempt students who meet the standards from taking placement exams and by getting employers to give preference to these students.

4. It Matters That Teachers Engage Students in Completing Challenging Assignments

Students learn more in high-level academic and career/technical courses when teachers engage them in learning. Some strategies at successful *HSTW* sites include getting students to:

- Read a variety of books and articles and write analyses of them;
- Complete science projects, prepare written reports and make oral presentations;
- Use computers to complete assignments for academic and career/technical classes;
- Use mathematics to solve real-world problems.

Enrolling students in the right academic and career/technical courses is only part of the challenge. If teachers don't adopt new teaching methods, many students will not succeed. Teachers can make courses more demanding while connecting them to real-life problems that capture students' interest and motivate them to work hard.

At the 45 most-improved *HSTW* sites, teachers lecture less and students spend more time being "active learners." Students write explanations of concepts, use knowledge and skills to solve authentic problems, and tell others what they have learned.

To plan a focused professional-development program, successful schools determine what they want to achieve and plan all activities around that goal. These schools plan staff development that will help teachers:

- Align curricula and assessment to state and local standards;
- Select performance indicators and identify examples of student work that meets those indicators;
- Teach more advanced academic subjects;
- Use student-centered learning strategies.

State Policy and Leadership Initiatives for Implementing Things That Matter: "Teachers Engaging Students in Completing Challenging Assignments"

- **Link staff development to school improvement.** States should revise the piecemeal way that schools and school districts use professional development funds so that staff development is tied directly to 1) the more demanding subject matter that teachers are expected to know and teach, 2) the school improvement plan, and 3) specific curriculum and instructional changes the school seeks to make to improve student achievement.
- **Offer workshops on school improvement.** The state can promote school improvement by sponsoring workshops that focus on advancing the achievement of all students. These workshops can help build a vision of needed changes and can strengthen confidence that better learning is possible.

5. It Matters That Everyone Supports High Expectations

Career/technical students achieve at a higher level if they are required to 1) "catch up" when they are unprepared for high school work, 2) complete the *HSTW*-recommended curriculum, 3) take a mathematics and/or science course in their senior year, and 4) do lots of meaningful homework.

Successful schools no longer use past performance, socioeconomic status, race or family circumstances to excuse some students from learning difficult content. These schools focus on helping all students meet high expectations.

The most-improved schools in the *HSTW* network have worked hard to get teachers, parents and the community to support higher standards. They have investigated their graduates' performance in postsecondary studies and have asked employers about the strengths and weaknesses of new workers and job applicants. They also have interviewed current and former students to learn how the school can do a better job. Each information-gathering experience has been shared with and discussed by all faculty members. Over time, the evaluation of these experiences has caused teachers to rethink their beliefs about school and classroom practices and what is expected of students.

In the last 11 years, *HSTW* has confirmed that many schools need outside help to build school and community consensus for higher standards and to develop a plan for doing so.

State Policy and Leadership Initiatives for Implementing Things That Matter: "Supporting High Expectations"

- **Help schools reach consensus for increasing student achievement.** States can award small planning grants to help schools raise the awareness of teachers, parents and the community and reach consensus on the need for improvement.

- **Assign a highly qualified facilitator to work with five to 10 high schools over two to three years.** Some schools and districts lack the internal capacity to build consensus and develop a plan for change. As a result, many flounder. States could enable an outside facilitator to work with a group of schools to help them create awareness among teachers and community leaders, develop an improvement plan, and plan site-specific staff development aimed at changing practices and improving achievement.

- **Make technical assistance visits to low-performing high schools and those that are not improving.** States can participate more actively in conducting technical assistance visits and providing oral and written feedback on frameworks for school improvement plans. They also can provide follow-up coaching as the schools implement their improvement plans.

6. It Matters That Students Get Extra Help in Meeting Higher Standards

Extra help and time are important if they are designed to help students meet the standards of higher-level academic courses. If the assistance is aimed at helping students pass low-level academic courses, its effect on student achievement is limited. Teachers, tutors and families play roles in helping students succeed in more difficult courses.

At the most-improved *HSTW* schools, students who fail or perform poorly on standardized tests are required or strongly encouraged to do one or more of the following: attend mathematics or reading labs, schedule extra sessions with a mathematics or reading specialist, or enroll in noncredit catch-up classes. Schools also offer tutorial programs before, during and after school, and students are referred to computer labs, summer academies and night classes.

One effective approach has been to gather students every nine weeks to reteach the concepts they failed to understand the first time. This allows students to gain deeper understanding of content before they move to new material.

School leaders and teachers at the most-improved high schools make certain that parents understand what the school is doing and get their support for high standards. A good system for extra help will convince students and parents that the school cares, that high school is important, and that the school is committed to helping all students meet high standards.

State Policy and Leadership Initiatives for Implementing Things That Matter: "Extra Help for Students in Meeting Higher Standards"

- **Offer opportunities for high school leaders and teachers to learn about effective strategies for providing extra help.** States can devote resources to developing extra-help models, conducting workshops on effective strategies, and letting teachers visit schools with model extra-help systems.

- **Provide financial aid to districts and schools to help students meet higher standards.** State assistance is needed to help schools provide extended-day, extended-week and extended-year programs, special tutors and resource teachers. States also can work with local school districts to focus federal aid (Title I, vocational education and Goals 2000) on helping students meet higher standards.

- **Support a ninth-grade transition program aimed at getting most students to complete Algebra I and geometry and two years of**

college preparatory English by the end of grade 10. Students must be ready by grade 11 to do the type of advanced academic studies needed for college or employment in a career/technical field. High schools can boost the achievement of unprepared ninth-graders by:

- Offering summer programs in reading, writing, mathematics, computers and career awareness;
- Doubling English and mathematics credits in grades nine and 10 (requiring students to take up to four credits in English and mathematics);
- Giving students extra help before and after school;
- Getting students to meet standards by repeating classes — after school, on Saturdays and during the summer.

7. It Matters That Schools Offer a Supportive Guidance System

The goal of a guidance and advisement system should be to encourage students to complete challenging academic and career/technical courses. Career/technical students have higher academic achievement when they are:

- Encouraged to take more mathematics and science courses;
- Encouraged to take a concentration of challenging academic or career/technical courses;
- Given information about further educational and employment opportunities;
- Assisted in setting goals for after high school.

Successful schools involve students, parents and teachers in developing a focused program of study that includes four years of high school and two years of activities after high school. The more students know about education and career options and requirements, the more reasons they have to set goals and work hard to achieve them.

The most-improved *HSTW* sites have guidance systems in which teachers are trained as advisers to meet regularly with small groups of students and parents. Counselors at these schools encourage students to complete an upgraded academic core and a major.

State Policy and Leadership Initiatives for Implementing Things That Matter: "Offering a Supportive Guidance System"

- **Improve the preparation of school counselors.** Increase counselors' capacity to provide academic and career counseling and information aimed at placing career-bound students in rigorous academic courses needed to enroll in postsecondary education and to pursue career goals. States also should require state colleges and universities to include more information about employment opportunities in the preparation of school counselors. An understanding of the rising educational requirements of the workplace is essential in advising students about education and careers.
- **Encourage schools to develop a teacher-adviser program.** Most high schools do not have enough counselors to provide students and parents with ongoing information and advisement about education and career opportunities. States can encourage schools to train teachers 1) to advise students and parents about the need to take more difficult academic and career/technical courses, 2) to relate the courses to various careers and postsecondary studies, and 3) to offer ways that parents can help students reach their goals.

- **Emphasize parental involvement in planning students' programs of study in high school.** States and schools can develop and promote strategies to involve parents in planning students' programs of study.
- **Require all students to develop education and career plans.** States can require each school district to help all students develop a challenging program of study for high school and beyond. Students, parents and school officials can review the plans annually and make changes as needed.
- **Encourage early "reality checks."** Many high school graduates are unprepared to do college-level work. In fact, 41 percent of students who enroll in public two-year colleges must take at least one remedial course. States can help more students avoid remedial courses by requiring state colleges and universities, community colleges and technical institutions to give 10th- and 11th-graders trial placement tests. Businesses can give sample employment tests to high school students. Such "reality checks" help students avoid bitter surprises in the future and help schools prepare students for a smooth transition from high school to postsecondary education and employment. "Reality checks" show students, parents and educators the importance of high achievement in high school.

8. It Matters That Teachers Work Together

When schools provide common planning time for teams of academic and vocational teachers to work together, they make more progress in:

- Advancing academic achievement;
- Enrolling students in higher-level academic courses;
- Motivating students to complete difficult assignments;
- Getting students to work harder, both in class and out of class;
- Getting academic teachers to adhere to college preparatory standards in teaching career/technical students.

Many schools establish small "learning communities" in which academic and vocational teachers work together to teach a group of students. This school structure:

- Allows teachers to share successful strategies to motivate students;
- Enables content and skills taught in one class to be reinforced in others;
- Reduces teacher burnout by using a team instead of expecting one teacher to do it all;
- Utilizes teachers' leadership skills;
- Encourages students to work on homework assignments in small groups outside of class;
- Allows teachers to get to know students and parents;
- nables teachers and students to see connections among high school courses;
- Makes it easier for teachers to plan student projects;
- Creates a learning environment in which everyone works toward the same goals.

State Policy and Leadership Initiatives for Implementing Things That Matter: "Helping Teachers to Work Together"

- **Encourage large poor-performing high schools to establish small learning communities aimed at raising academic and career/technical achievement.** State departments of education can sponsor workshops and visits to schools

that have used small learning communities successfully. The state of Florida funds academies or schools-within-schools, in which teams of teachers teach rigorous academic courses and focused career courses.

- **Create policies that encourage high schools to experiment with small learning communities in order to improve student achievement.** Encourage schools to change their organizational patterns and schedules to encourage teamwork across the curriculum. Urge schools to support teachers with materials, planning time and staff development aimed at engaging students in intellectually challenging studies.

Conclusion

State policy-makers and educational leaders play a pivotal role in challenging and inspiring high schools to embark on or to continue changes that will raise student achievement. This report has offered suggestions for state actions that can put the "things that matter most" into practice in order to improve student performance. After more than a decade, the SREB is convinced that these actions can help more young people obtain a better education.